

Appl. No. 10/657,785
Resp. dtd. Sept. 21, 2009
Resp. to Office action dtd. April 24, 2009

REMARKS

Claims 40-42, 46-51 and 55-132 were pending in the application at the time of the Office Action.

The specification stands objected to as failing to provide proper antecedent basis for the various claimed subject matter.

Claims 55-132 stand rejected under 35 U.S.C. § 112, ¶ 1, as failing to comply with the written description requirement.

Claims 55 and 56 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent No. 4,964,121 to Moore (“*Moore*”) in view of U.S. Patent No. 4,135,059 to Schmidt (“*Schmidt*”).

Claims 40-42 and 46-51 stand allowed.

For at least the reasons stated below, the Applicants respectfully traverse the above rejections and objection and submit that all currently pending claims are allowable.

Examiner Interview, Objection to Specification, and Rejections Under 35 U.S.C. § 112

The Applicants would like to thank the Examiner for the interviews of Sept. 18 and 21, 2009. The Examiner and the Applicants’ representative discussed the rejections under 35 U.S.C. § 112 and the objection to the specification.

In particular, the parties discussed exemplary support in the specification for “a message of a particular type”. As stated in MPEP § 608.01(o), the Applicants are not limited to the nomenclature used in the application as filed. The Applicants’ representative and the Examiner discussed the “HELLO message” of the specification as an example of “a message of a particular type” (*e.g.*, “HELLO” being the particular type of “message”). The Examiner requested that the Applicants submit in this response that the “HELLO message” is an example of “a message of a particular type”.

The parties also discussed exemplary support in the specification for wake up based on a pseudo-random number. The Examiner requested that the Applicants provide a written explanation of support in the specification for such pseudo-random based wake-up. For example and without limitation, the Applicants direct the Examiner to col. 34, lines 17-18; and col. 39,

lines 17-44. More particularly, at col. 34, lines 17-18, the specification explains that the HELLO messages include a seed value that is used in a randomization algorithm to determine the next HELLO-slot for the transmitting node and for determining the next seed value. In other words, the HELLO messages may, in some embodiments, be transmitted with a HELLO-to-HELLO period that has a pseudo-random component. For example, at col. 39, lines 21-23, the specification states, “Nodes can execute the [randomization] algorithm ‘i’ times to determine the time (and seed) of the ‘i-th’ HELLO packet from the transmitter”. Then for example, at col. 39, lines 40-44, the specification states, “A sleeping node can calculate the time of the next expected HELLO packet from its parent and can power-down with an active timer interrupt set to wake it just before the HELLO packet is transmitted.” In other words, in this particular embodiment, after the receiving node receives the HELLO seed value from the transmitting node, the receiving node utilizes the seed value in a randomization algorithm to, at least in part, determine when to wake to receive a particular HELLO message in the future.

Lastly, the Applicants’ representative and the Examiner discussed utilization of the phrase “pseudo-random number” versus “random number” in various claims, though the specification generally refers to various seed values and random number generation and does not specifically utilize the term “pseudo-random”. The Examiner expressed his preference for utilizing exact language from the specification. In this particular case, however, since the transmitting and receiving nodes are utilizing a same seed in a randomization algorithm to synchronize transmission and reception times of the HELLO messages, the Applicants believe that one of skill in the art would view such operation as pseudo-random operation. If the Examiner disagrees, the Applicants invite the Examiner to contact the undersigned to discuss such wording.

The parties further discussed claims 63 and 101, which specify on-line data entry. The Examiner requested that the Applicants provide a written explanation of support in the specification for such on-line data entry. For example and without limitation, the Applicants direct the Examiner to col. 30, lines 19-23 for support for online data entry. Such section of the specification mentions that, in an exemplary embodiment, the roaming terminals are “used primarily for on-line data entry”. For additional non-limiting exemplary support, the Applicants

refer the Examiner to the ABSTRACT discussion of the RF data collection network. The Applicants also refer the Examiner to col. 7, lines 15-20, introducing Figure 12 as an “on-line RF data collection system”, and to Figure 12 and the discussion thereof at col. 12, line 47 to col. 14, line 11. Further, the Applicants refer the Examiner to col. 24, lines 10-16, discussing the roaming terminals operating to collect data, for example, via bar code reader or via keyboard data entry. The Applicants submit that the above-mentioned specification support represents only a portion of support in the specification for a node (*e.g.*, a roaming terminal) operating to perform “on-line data entry” and that such additional exemplary support may be found throughout the specification.

Summarizing, the Applicants believe that all 35 U.S.C. § 112 issues, including specification support issues, have been addressed with regard to the present claims.

35 U.S.C. § 103 Rejections

Claims 55 and 56 stand rejected under 35 U.S.C. § 103 as being unpatentable over *Moore* in view of *Schmidt*. Without conceding that *Moore* and/or *Schmidt* qualify as prior art to the present application, the Applicants respectfully traverse such rejections.

Turning first to claim 55, such claim is directed to a method for operating a node in a wireless network. Claim 55 states, among other things, “comprising: waking a node in a low power state at regular intervals; receiving at the waken node a message of a particular type that is transmitted periodically; synchronizing the node to the received message; and switching operation of the node to an active state in response to the received message”.

The Office Action, at pages 3-4, states that *Moore* teaches “a method for operating a node in a wireless network comprising: waking a node in a lower power state at regular intervals (*Moore* see for example figures 5, 6, item 216, column 7, line 31 – column 8, lines 65); receiving at the waken node a particular message that is transmitted periodically (*Moore* see for example figures 5, 6, item 216, columns 7, line 31 – column 8, lines 65. Note that *Moore*’s message would be a ‘particular’ message)”. The Applicants respectfully disagree with such characterization of *Moore* and the language of claim 55. For example, claim 55 states “receiving a message of a particular type that is transmitted periodically”, not “receiving ... a particular

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message". The Office Action does not identify in *Moore* a "message of a particular type that is transmitted periodically" nor "switching operation of the node to an active state in response to the received message [of the particular type that is transmitted periodically]".

Claim 55 also states "where the regular interval [at which the node is awaked] is a multiple of the period at which the particular type of message is transmitted periodically".

The Office Action states that *Moore* lacks a specific teaching of the regular interval being a multiple of a period at which the message is transmitted. Then, however, the Office Action appears to state that since *Moore* shows a TDM system, and *Schmidt* teaches a TDM system in which a receiving station receives in regular intervals that are integral multiples of the channel slots (corresponding to the claimed 'period') from a synchronizing frame reference, that the combination of such teachings renders the claimed invention obvious. The Applicants respectfully disagree with such characterization of *Moore* combined with *Schmidt*.

For example, *Moore* (e.g., at col. 7, line 32 to col. 8, line 65) shows a system in which a communication unit enters either a synchronous battery-saving mode or an asynchronous battery-saving mode. In the synchronous battery-saving mode, *Moore*'s communication unit enters a synchronous battery saving mode, in which the communication units refine bit synchronization and verify frame synchronization during a synchronization verification interval. See, e.g., col. 8, lines 31-65. In the synchronous battery-saving mode, there is no indication of "waking a node in a low power state at regular intervals ... where the regular interval is a multiple of the period at which the particular type of message is transmitted periodically".

In the asynchronous battery-saving mode, *Moore*'s communication unit may enter the battery saving mode for a variable and programmable amount of time. *Moore*'s communication unit then exits the battery saving mode and looks for any valid command or attribute word in the communication unit's receive time slot. See, e.g., col. 7, lines 41-44. Thus, in the asynchronous battery-saving mode, there is also no indication of "waking a node in a low power state at regular intervals ... where the regular interval is a multiple of the period at which the particular type of message is transmitted periodically". Based on the Office Action comments, the Examiner appears to agree.

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The Office Action's comment about *Schmidt*'s channel slots corresponding to the claimed period is not applicable since claim 55 states "where the regular interval is a multiple of a period at which the particular type of message is transmitted periodically" and there is no indication in *Schmidt* or *Moore* that there is a same particular type of message that is transmitted at each channel slot. Additionally, the Office Action's comment about *Schmidt*'s frame reference being sent at regular intervals, even if true, is not applicable, since there is no indication in *Schmidt* or *Moore* of "switch[ing] operation of the node to an active state in response to the received message", where the received message is a frame reference.

Accordingly, the Applicants submit that claim 55 is allowable over *Moore* and/or *Schmidt*, individually or in reasonable combination, as are all claims depending therefrom, including claims 95-132. The Applicants also submit that each of claims 95-132 is independently allowable.

Turning next to independent claim 56, such claim is a circuit claim that generally corresponds to method claim 55, discussed above. Accordingly, for at least reasons generally analogous to those discussed previously with regard to claim 55, where reasonably applicable, the Applicants submit that claim 56 is allowable, as are all claims depending therefrom, including claims 57-94. The Applicants also submit that each of claims 57-94 is independently allowable.

Final Matters

The Office Action includes various statements regarding various pending claims, the specification, the *Moore* and *Schmidt* references, one of skill in the art, 35 U.S.C. § 112 and 35 U.S.C. § 103, which are now moot in view of the previous comments. Thus, the Applicants will not address all of such statements at the present time. The Applicants neither agree nor disagree with such statements and explicitly reserve the right to challenge any of such statements in the future should the need arise (e.g., if any of such statements are repeated in a future rejection of any claim).

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Summary

In summary, the Applicants believe that all pending claims 40-42, 46-51 and 55-132 are in condition for allowance and courteously solicit a Notice of Allowability with respect to all such pending claims. If the Examiner feels that this response does not place the application in condition for allowance, the Applicants invite the Examiner to contact the Applicants' representative to discuss any remaining issues and/or effect any necessary amendments.

The Commissioner is hereby authorized to charge additional fees or credit overpayments to the deposit account of McAndrews, Held & Malloy, Account No. 13-0017.

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Respectfully submitted,

/Shawn L. Peterson/
Shawn L. Peterson
Attorney for applicant
Reg. No. 44,286

McAndrews, Held & Malloy, Ltd.
500 W. Madison St., Ste. 3400
Chicago, IL 60661
Telephone: (312) 775-8000